


Topic: oxidation of fats
Class: B.Sc Part –III (Hons.)
Paper- V
Group – A

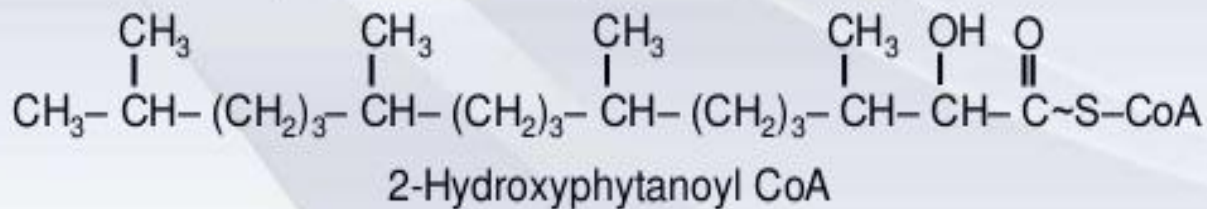
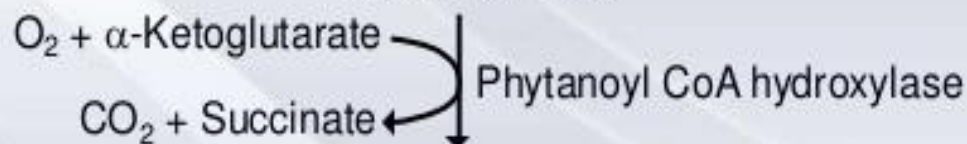
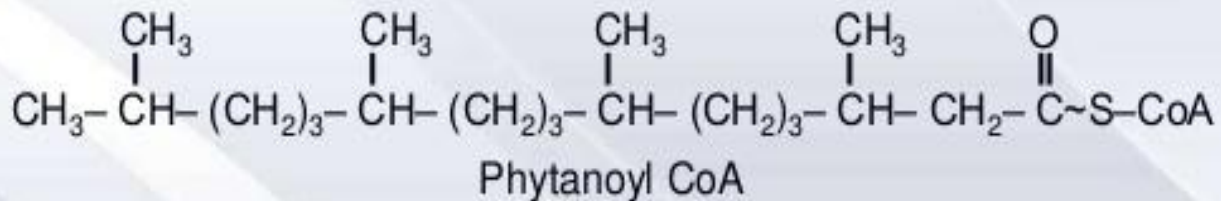
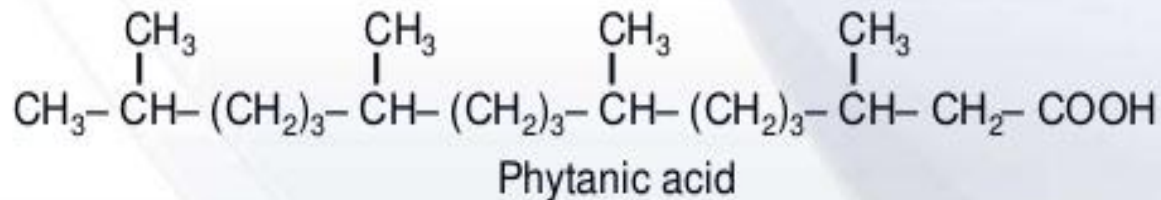
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Department: Zoology

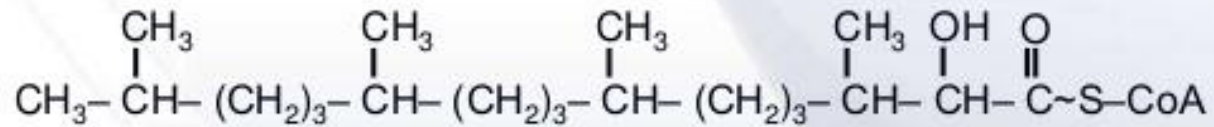
College: Dr. L. K. V. D College, Tajpur, Samastipur

- There are two other pathways for oxidation of fatty acids
- These are quantitatively insignificant
- Of these, α -oxidation pathway is present in brain
- The other pathway is ω -oxidation Other pathways for oxidation of fatty acids
- α -Oxidation is a pathway for the oxidation of 3-methyl-branched chain fatty acids
- Phytanic acid is the most important 3-methyl-branched chain fatty acid
- Phytanic acid is 3,7,11,15-tetramethyl- hexadecanoic acid α -Oxidation

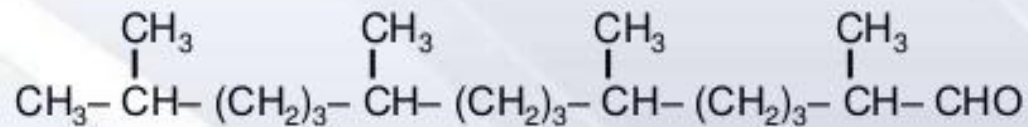
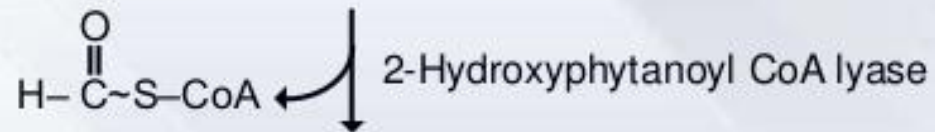
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- Phytanic acid is oxidized by α -oxidation
 - α -Oxidation occurs in peroxisomes
 - Phytanic acid is first activated to phytanoyl CoA
 - Phytanoyl CoA is hydroxylated to 2- hydroxyphytanoyl CoA



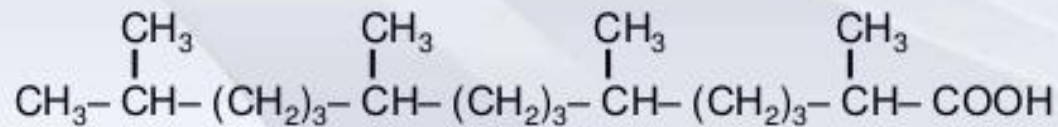
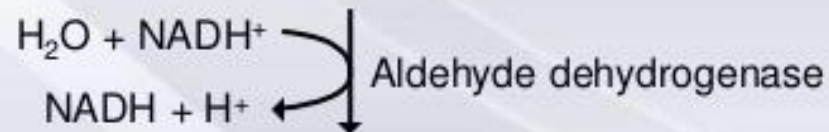
- Hydroxyphytanoyl CoA is cleaved into pristanal and formyl CoA
- Formyl CoA is broken down into formate and eventually CO₂
- Pristanal is oxidized to pristanic acid



2-Hydroxyphytanoyl CoA



Pristanal



Pristanic acid